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compounds generally, will probably be obtained by submitting them to the action of nascent oxygen, hydrogen, chlorine, etc., at the electrodes; and the action seems the more promising, because of the thorough command which we possess over attendant circumstances, such as the strength of the current, the size of the electrodes, the nature of the decomposing conductor, its strength, etc., all of which may be expected to have their corresponding influence upon the final result.

517. It is to me a great satisfaction that the extreme variety of secondary results has presented nothing opposed to the doctrine of a constant and definite electro-chemical action, to the particular consideration of which I shall now proceed.

If vii. *On the definite nature and extent of  
Electro-chemical  
Decomposition*

518. In the first part of these Researches, after proving the identity of electricities derived from different sources, and showing, by actual measurement, the extraordinary quantity of electricity evolved by a very feeble voltaic arrangement (107, 112), I announced a law, derived from experiment, which seemed to me of the utmost importance to the science of electricity in general, and that branch of it denominated electro-chemistry in particular. The law was expressed thus: *The chemical power of a current of electricity is in direct proportion to the absolute quantity of electricity which passes* (113).

519. In the further progress of the successive investigations, I have had frequent occasion to refer to the same law, sometimes in circumstances offering powerful corroboration of its truth (192, 240, 241); and the present series already supplies numerous new cases in which it holds good (439, 457, 461, 467). It is now my object to consider this great principle more closely, and to develop some of the consequences to which it leads. That the evidence for it may be the more distinct and applicable, I shall quote cases of decomposition subject to as few interferences from secondary results as possible, effected upon bodies\* very simple, yet very definite in their nature.

520. In the first place, I consider the law as so fully established

with respect to the decomposition of *water*; and  
under so many  
circumstances which might be supposed, if  
anything could, to  
exert an influence over it, that I may be excused  
entering into  
further detail respecting that substance, or even  
summing up  
the results here (467). I refer, therefore, to  
the whole of the

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